## Public Water Supply Versus Backflow

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### Speaking Backflow



# History of Cross-connections



### Authority

The Texas Health & Safety Code §341.033 Protection of Public Water Supplies



#### Texas Administrative Code

# Rules & Regulations for Public Water Systems RG-195 Revised February 2004



# Cross-Connection Control



#### §290.44(h) & Appendices

Requirements

Prevention

Records

Licensed/ Certification



### Requirements



#### Classifications

- Health hazard involves a substance that can cause death, illness, spread disease or has a high probability of causing such effects.
- Nonhealth hazard involves a substance which is not a health hazard, but is a nuisance, or is aesthetically objectionable.

#### Definition

§290.38

Potential contamination hazard - a condition which, by its location, has a reasonable probability of being used incorrectly . . . .



#### Backflow, siphonage

§290.44(h)(1)

No water connection from any public drinking water supply system shall be allowed to any residence or establishment where an actual or potential contamination hazard exists unless .....



#### Backflow, siphonage

§290.44(h)(1)(A)

The type of backflow prevention assembly required shall be determined by the specific potential hazard identified in **Appendix I** 



### Frequency of Testing for Backflow Assemblies

§290.44(h)(4)

Tested upon installation

If installed for a health hazard, must be tested at least annually



#### Prevention



#### Compliance §290.44(h)

§290.46(j)

A Customer Service Inspection (CSI) shall be completed prior to providing continuous water service when ...

- New construction or material improvement
- Water purveyor believes a crossconnection exists



#### Prevention of Cross-Connections

§290.46(i)

Public water systems must adopt an adequate plumbing ordinance, regulations, or service agreement



### Type of Backflow Prevention

Air Gap - twice the diameter of pipe, no less than 1 inch



# Approved Backflow Prevention Assemblies for Hazards



#### Assemblies

- ► RPBA (reduce pressure principle assembly) health and non health
- PVB (pressure vacuum breaker) only installed for back siphonage
- AVB (atmospheric vacuum breaker) only installed for back siphonage
- DCVA (double check valve assembly) only installed for non health

 Assemblies have specific conditions for installation and testing, reference AWWA M14 Manual or the USC's Manual



#### Records



#### Backflow Assembly Test Reports

- The test report must be completed by a TCEQ certified tester for each assembly tested.
- Original must be submitted to the water system.
- Water Systems must accept TCEQ's form in Appendix F

#### Customer Service Inspection Certificate

Shall be completed by a qualified inspector

Maintained for ten (10) years



#### Customer Service Agreement

- Shall prohibit cross-connections and unacceptable plumbing practices
- Signed by customer



#### Altered/Changed forms

Any form which varies from the format specified in appendices of this title ... must be approved by the TCEQ prior to being placed into use.



#### Licensed/Certification



### Backflow Assembly Tester Certification

### Texas Commission on Environmental Quality

Attend a Commission approved course

Pass Examination



#### Qualified Inspectors

Texas State Board of Plumbing Examiners:

- Plumbing Inspectors
- Water Supply Protection Specialists (Endorsement)



#### Qualified Inspectors

Texas Commission on Environmental Quality

Customer Service Inspection
 Licenses



#### Areas of Concern



#### Fireline Testeing

§290.44(h)(4)(A)(ii)

Backflow Prevention Assembly Testers on firelines, must contact the State Fire Marshall's Office



#### Internal Protection

§290.44(h)(5)

The use of a backflow prevention assembly at the service entrance shall be considered additional protection and shall not negate the use of internal protection as outlined and enforced by local plumbing codes.

## Is containment at all meters necessary?

§290.44(h)(6)

At any residence or establishment where there is no actual or potential contamination hazard, a backflow prevention assembly is not required.



#### Helpful Guidance

Regulatory Guidance -206

A Public Water Systems Guide to Customer Service Inspections



#### General Information

Where Appliciable

- ► TCEQ 290.44(h) rules are minimum
- PWS can be more stringent than 290.44(h) rules
- Protection of Public Drinking Water is the primary objective

#### References for Cross-Connection Control

American Water Works Association (AWWA) Manual M14 (800)926-7337

www.awwa.org

University of Southern California - Manual of Cross-Connection Control (213) 740-2032

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